

SHORT-COURSE ZIDOVUDINE FOR PERINATAL HIV-1 TRANSMISSION

A double-blind, placebo-controlled study examined the safety and efficacy of perinatal short-course oral zidovudine. HIV-1-infected pregnant women ($n = 397$) were randomized to receive oral zidovudine (300 mg) or placebo twice daily from 36 weeks' gestation until the onset of labor; once at labor onset, and then every 3 hours until delivery. Women scheduled for cesarean delivery received doses at 12, 9, and 6 hours before surgery. After delivery, babies were examined by study pediatricians and follow-up visits were scheduled for ages 1, 2, 4, 6, 9, 12, 15, and 18 months; patients did not breast-feed their babies. Three out of 395 babies (one in the zidovudine group and two in the placebo group) died in the first 2 months. In the remaining 392 babies, the estimated HIV-1 transmission risk was 9.4% in the zidovudine group and 18.9% in the placebo group; transmission risk was 50.1% lower in the zidovudine group than in the placebo group. Zidovudine seemed to lower transmission risk regardless of CD4 cell count; number of doses; duration of treatment, labor, and membrane rupture; and type of delivery. Median viral loads of the mothers in the zidovudine group were significantly lower at delivery than the placebo group. The study concluded that, in the absence of breast-feeding and with good adherence to dosage, short-course zidovudine can lower perinatal HIV-1 transmission risk by approximately 50%. Further studies are needed to determine whether short-course zidovudine has a protective effect on babies breast-fed by HIV-1-infected mothers.

Shaffer N, Chuachoowong R, Mock PA, et al: Short-course zidovudine for perinatal HIV-1 transmission in Bangkok, Thailand: a randomized controlled trial. Lancet 1999;353:773-780.

VERTICAL TRANSMISSION OF HIV-1

A meta-analysis of data on patients in 15 separate prospective cohort studies evaluated the relationship between the mode of delivery and the risk of mother-to-child (vertical) transmission of HIV-1. Mother-child pairs were included in the primary analysis if mode of delivery was known (ie, elective cesarean, nonelective cesarean, or vaginal delivery); 8533 mother-child pairs were eligible. After adjustment for receipt of antiretroviral therapy, advanced maternal disease, and low birth weight, elective cesarean delivery was strongly associated with a lower risk of vertical transmission of HIV-1. The risk of transmission appeared to be higher among women in whom labor began, membranes ruptured, or both occurred before a planned cesarean delivery could be performed. The relation of mode of delivery and HIV-1-infection status of the child did not vary

significantly according to the use of antiretroviral therapy. The study concluded that, when compared with HIV-1-infected women who underwent other modes of delivery, the risk of vertical transmission was significantly lower among HIV-1-infected women who underwent cesarean section before the onset of labor and the rupture of membranes. Pregnant women infected with HIV-1 must be advised of the risk factors for vertical transmission of HIV-1. The potential benefit of elective cesarean section as well as the potential risks associated with surgical delivery should also be discussed.

The International Perinatal HIV Group: The mode of delivery and the risk of vertical transmission of human immunodeficiency virus type 1. N Engl J Med 1999;340:977-987.

HIGHLY ACTIVE ANTIRETROVIRAL THERAPY IN HIV-1 PATIENTS

A prospective cohort study examined virologic and immunologic responses to highly active antiretroviral therapy (HAART) in routine patient care in terms of clinical disease progression. Data were taken from the Swiss HIV Cohort Study; 2674 HAART patients were assessed. Progression to a new AIDS-defining event or death were the study's main clinical endpoints; viral load and CD4 cell count responses were also measured. Overall, 141 patients experienced a new AIDS-defining event after starting HAART and 46 patients died from an HIV-1-related cause. The incidence of new AIDS events was 4.0 (3.4 to 4.8) and mortality was 1.3 (0.9 to 1.7) per 100 person-years. In terms of viral load and CD4 response, 81.2% of patients reached undetectable viral concentrations at 12 months whereas gains of at least 50 CD4 cells/ μ L were associated with the initial HAART regimen. The study concluded that the decline in HIV-1-associated morbidity and mortality in patients treated with HAART was more pronounced compared with the decline in other cohorts. Additional trials are necessary in order to determine the optimum time to initiate HAART as well as the best therapeutic strategies after virologic, immunologic, or clinical treatment failure.

Ledergerber B, Egger M, Opravil M, et al: Clinical progression and virological failure on highly active antiretroviral therapy in HIV-1 patients: a prospective cohort study. Lancet 1999;353:863-868.

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